23. The system according to claim 22, wherein said control damper is a louver damper that can be auto-adjusted to any position between fully open and fully closed.

24. The system according to claim 23, wherein said programmable controller in communication with said gas flow sensor includes software comprising computer instructions stored on non-transitory computer media for performing the steps of,

calculating a measure of gas being recirculated,

comparing said measure of gas recirculated to a minimum setpoint,

actuating said FGR damper to control the recirculated gas flow in accordance with said comparing step.

25. The system according to claim 23, wherein said louver damper is positioned upstream of said pre-heater.

26. The system according to claim 23, wherein said louver damper is positioned downstream of said pre-heater.

27. The system according to claim 19, wherein said pre-heater is connected in parallel with said FGR duct by a bypass duct, and two inline isolation dampers are positioned in said bypass duct, a first isolation damper located upstream of said pre-heater and a second isolation damper located downstream of said pre-heater.

28. The system according to according to claim 27, further comprising a third isolation damper located in said FGR duct.

29. The system according to claim 19, wherein said temperature probe is positioned in the bypass conduit.

30. The system according to claim 19, wherein said control signal controls said pre-heater to decrease an amount of heat added when said temperature is above said pre-selected setpoint, and increase an amount of heat added when said temperature is below a pre-selected setpoint.

* * * * *